

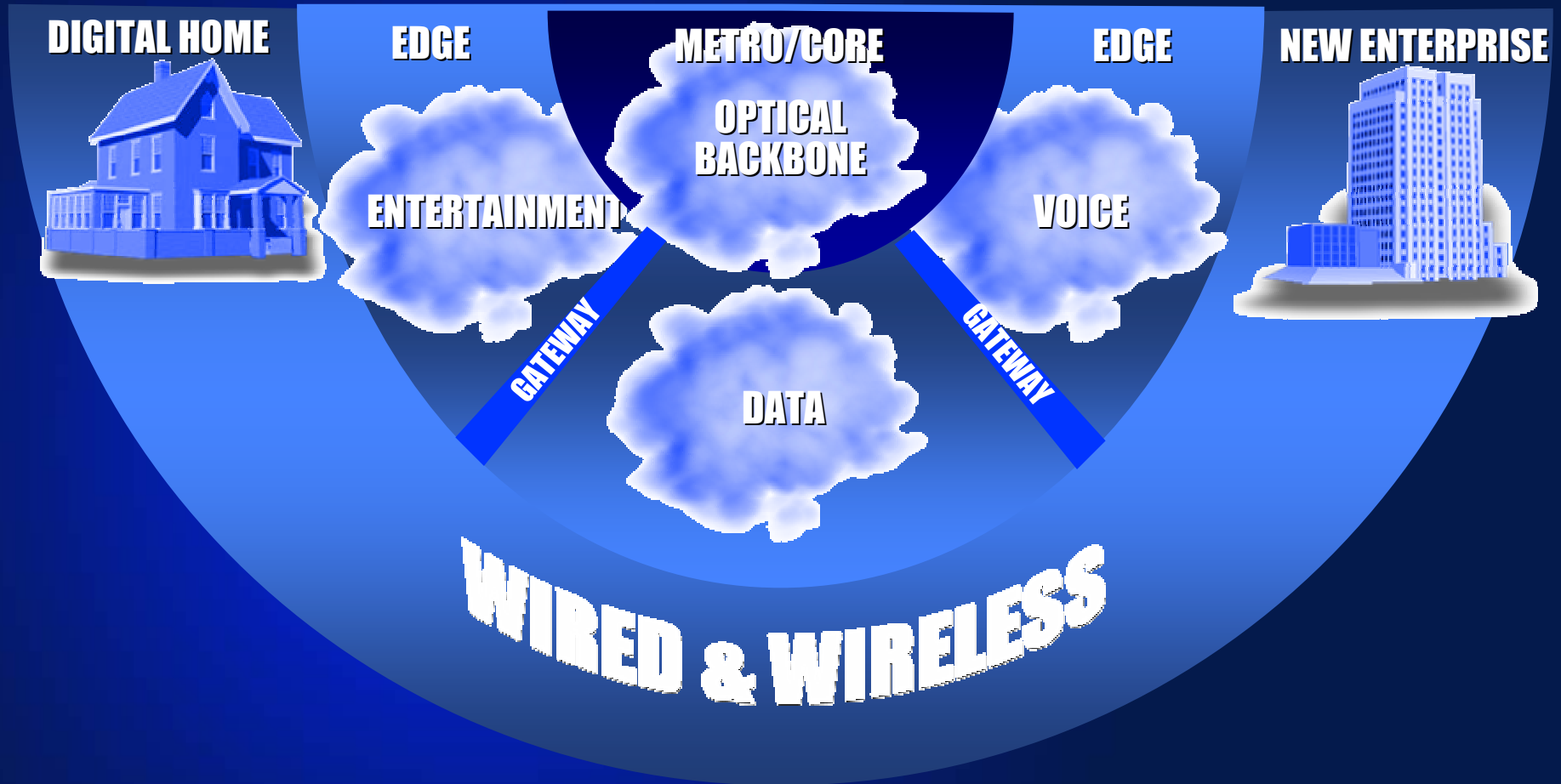
Communications Infrastructure

SEAN MALONEY

Executive Vice President, General Manager,
Intel Communications Group



Network Topology



Network Topology

DIGITAL HOME



CABLE

Cable Modem



DSL

DSL Modem

WIRED & WIRELESS

NEW ENTERPRISE



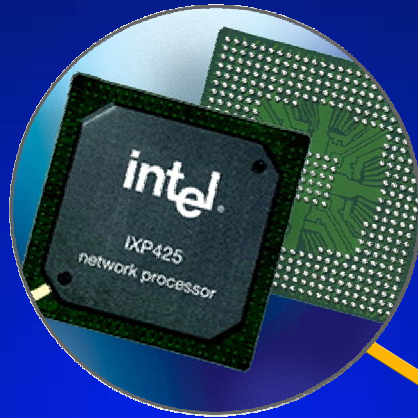
802.11

Access Point



ZONE

Requirements for the Wireless Access Point



Software
Stacks

Mesh Networking

Voice

Content Filtering

QoS

Authentication

Security

Provisioning

uPnP

⋮

TIME



...with Intel® Centrino™ Mobile Technology compatibility...

Intel Developer Forum

February 2002

Introducing the Next Generation Intel Network Processors



Intel IXP425
Processor



Intel IXP2400
Processor



Intel IXP2800
Processor

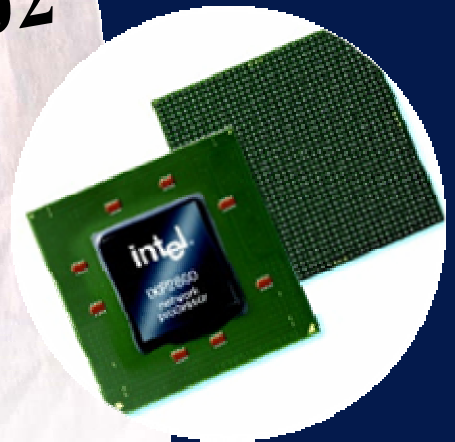


intel.

Since then...

Need Electronics Group
In-Stat MDR
<http://www.mdronline.com>

Best Network Processor of 2002
Intel IXP2800



As David Kanyon wrote, "The race is not always to the swift,
nor the battle to the strong, but that's the way to bet."

-Peter Glaskowsky



Announcing...

IXP420, 421 and 422
Industry's first product line optimized
for home and small-to-medium
enterprise applications



Intel® IXP4XX Product Line

COMMON:

Hardware, Software Architecture
Packaging
Development Tools



Highest Performance –
Data, Voice and Security



Secure Applications



Voice Applications



Cost-sensitive Broadband Applications

Announcing... WindowsCE.NET Port for IXP425

“ The combination of the Intel IXP425 network processor and Windows CE .NET is a compelling and rich platform for OEM customers that need to get their next generation of smart, small footprint networked devices, such as residential gateways and VoIP phones, to market quickly.”

**-Todd Warren,
Microsoft GM Embedded and Appliance Platforms Group**

IXP4XX Product Line Ecosystem

OS and Tools



Application Software and Professional Services



System Boards

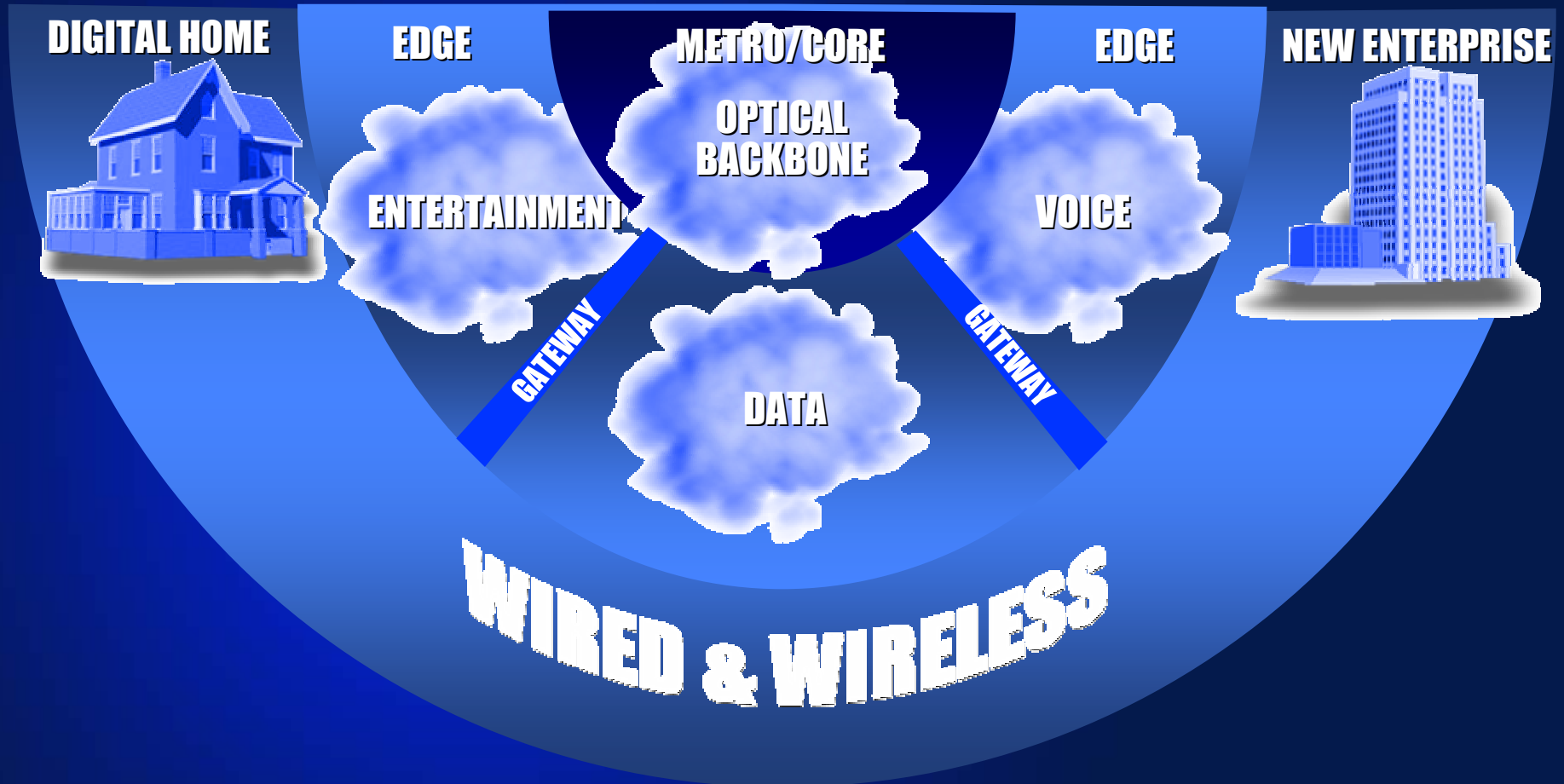


Intel® Communications Alliance.

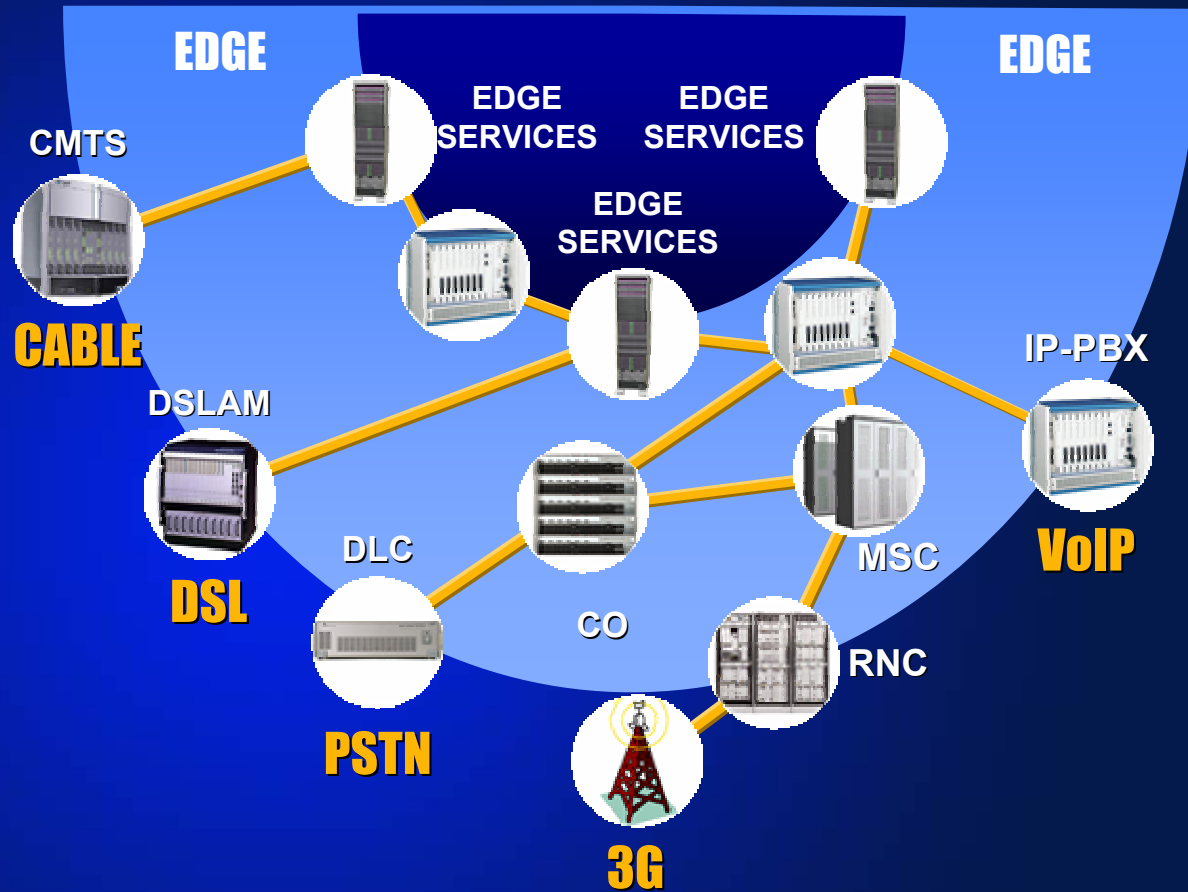


www.intel.com/go/ica

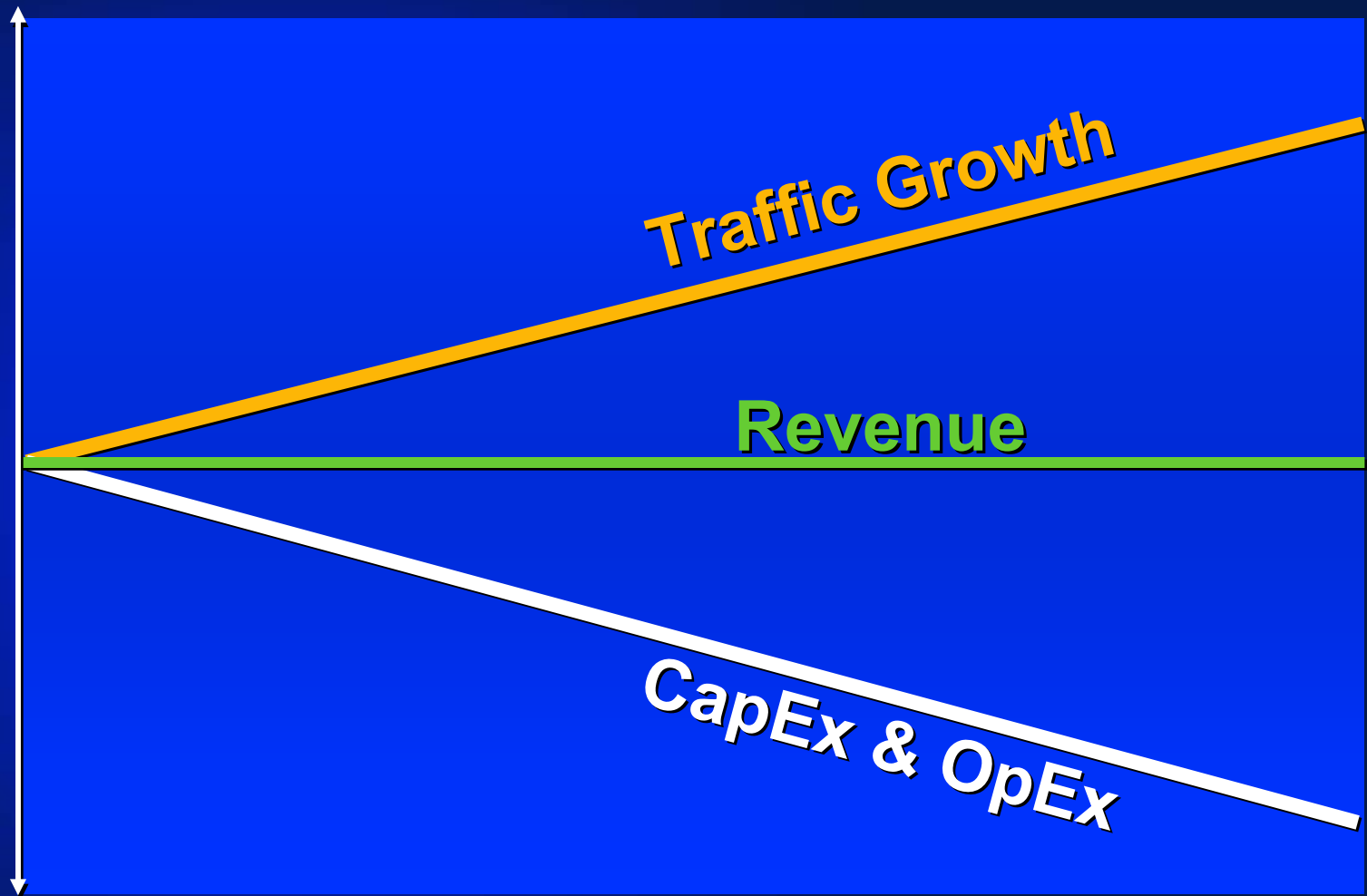
Network Topology



Network Topology



Industry Dilemma



Traffic Growth Drivers

Mass deployment of Wi-Fi

Broadband continued ramp

Emerging markets

Video streaming and download
goes mainstream

Integration of video / pictures
in phones

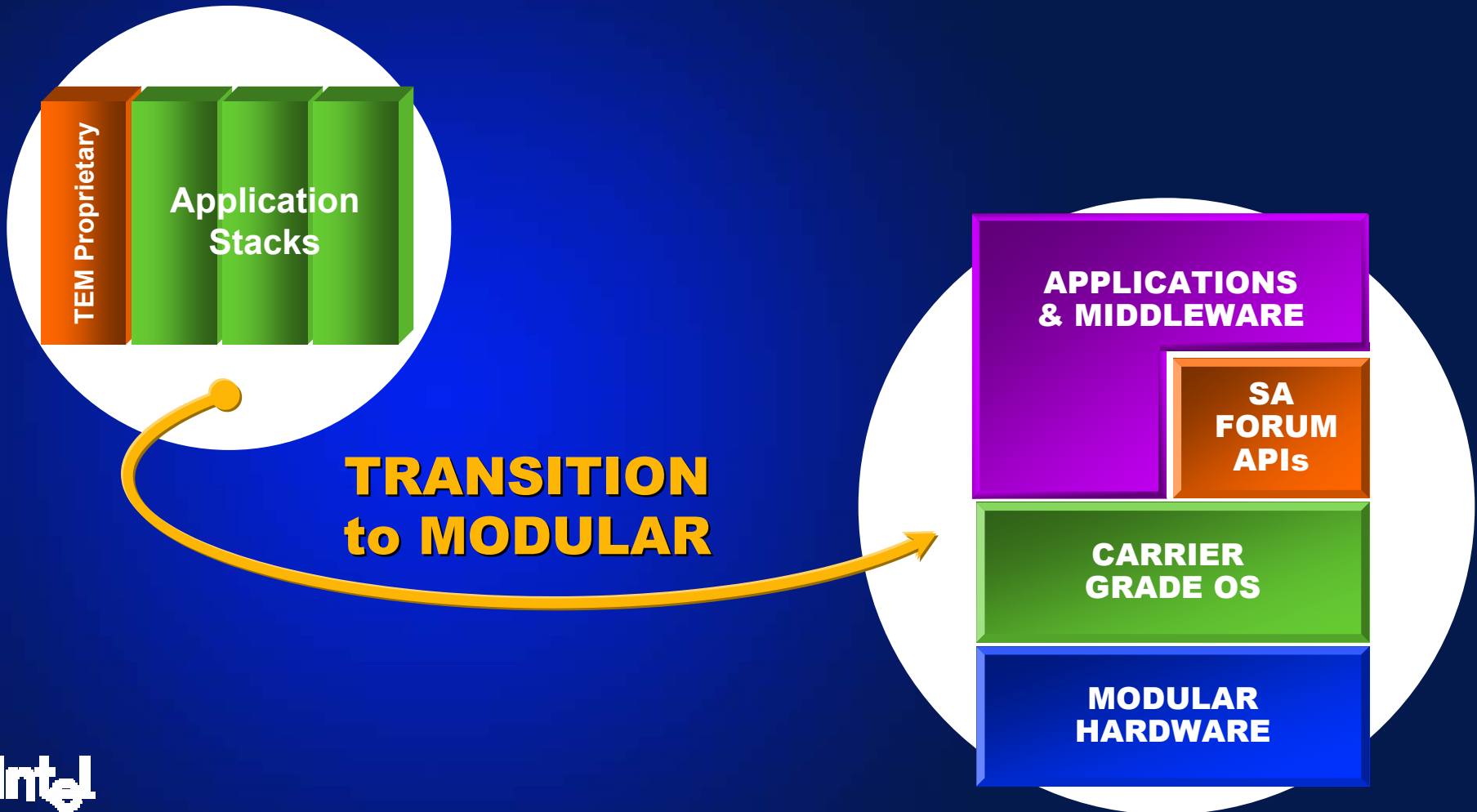
TV functionality in PCs

eBusiness

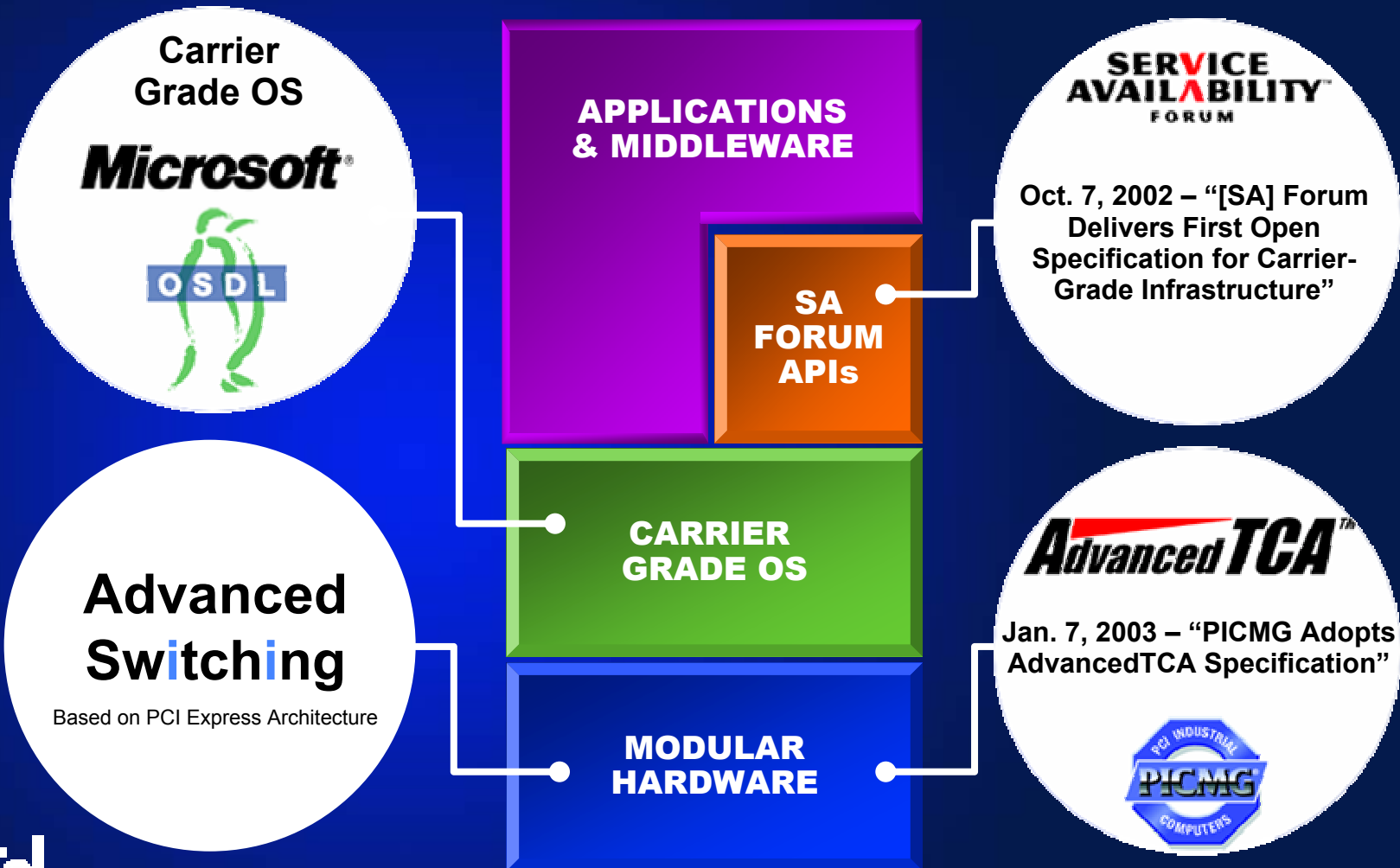
**The Infrastructure
must *Scale***

It must be modular...

Modular Communications Platforms



Equipment Built on Standards



AdvancedTCA™

Sweeping the Industry

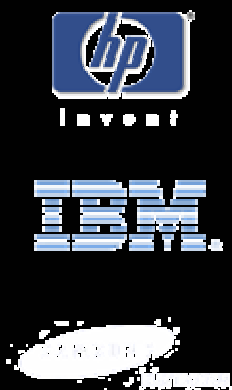
Third Party Software



Telecom Equipment Manufacturers



Computer OEMs



Applied Computing Platform Providers



Chassis and Connector Vendors



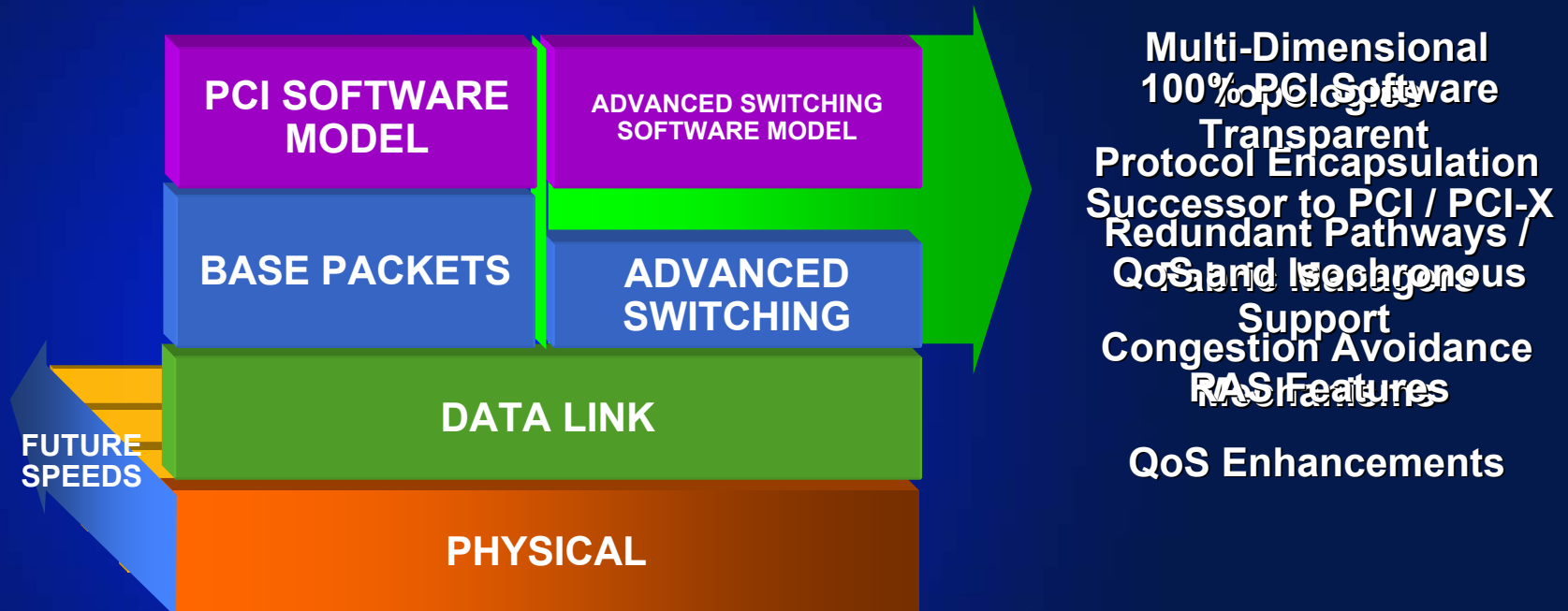
Software and Silicon Vendors



Advanced Telecom Compute Architecture



Advanced Switching Key Features

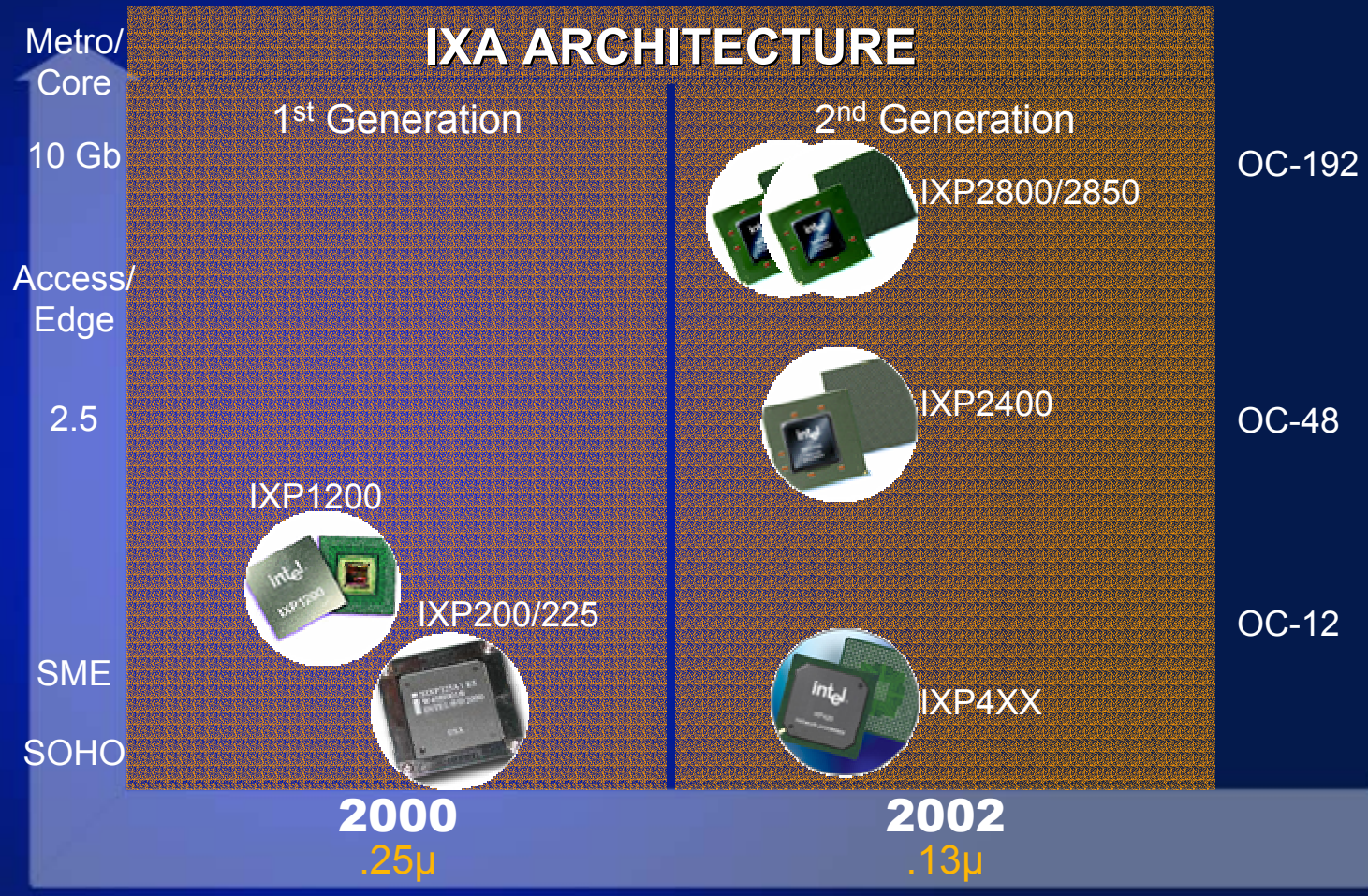


Modular Communications Platform Communications Processing

**Intel® Architecture
Applications Processing**

**Intel IXA Network Processors
Packet Processing**

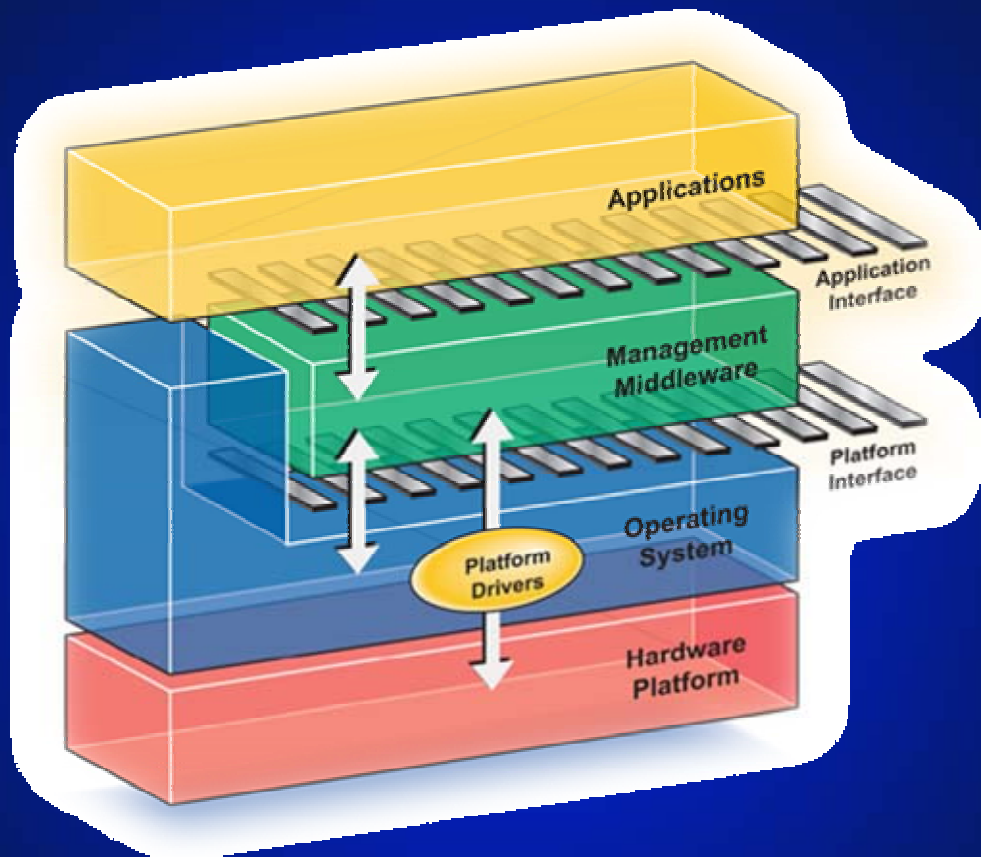
Intel Network Processor Roadmap



Carrier Grade Operating Systems



Service Availability Solutions Building Blocks



**SERVICE
AVAILABILITY™
FORUM**

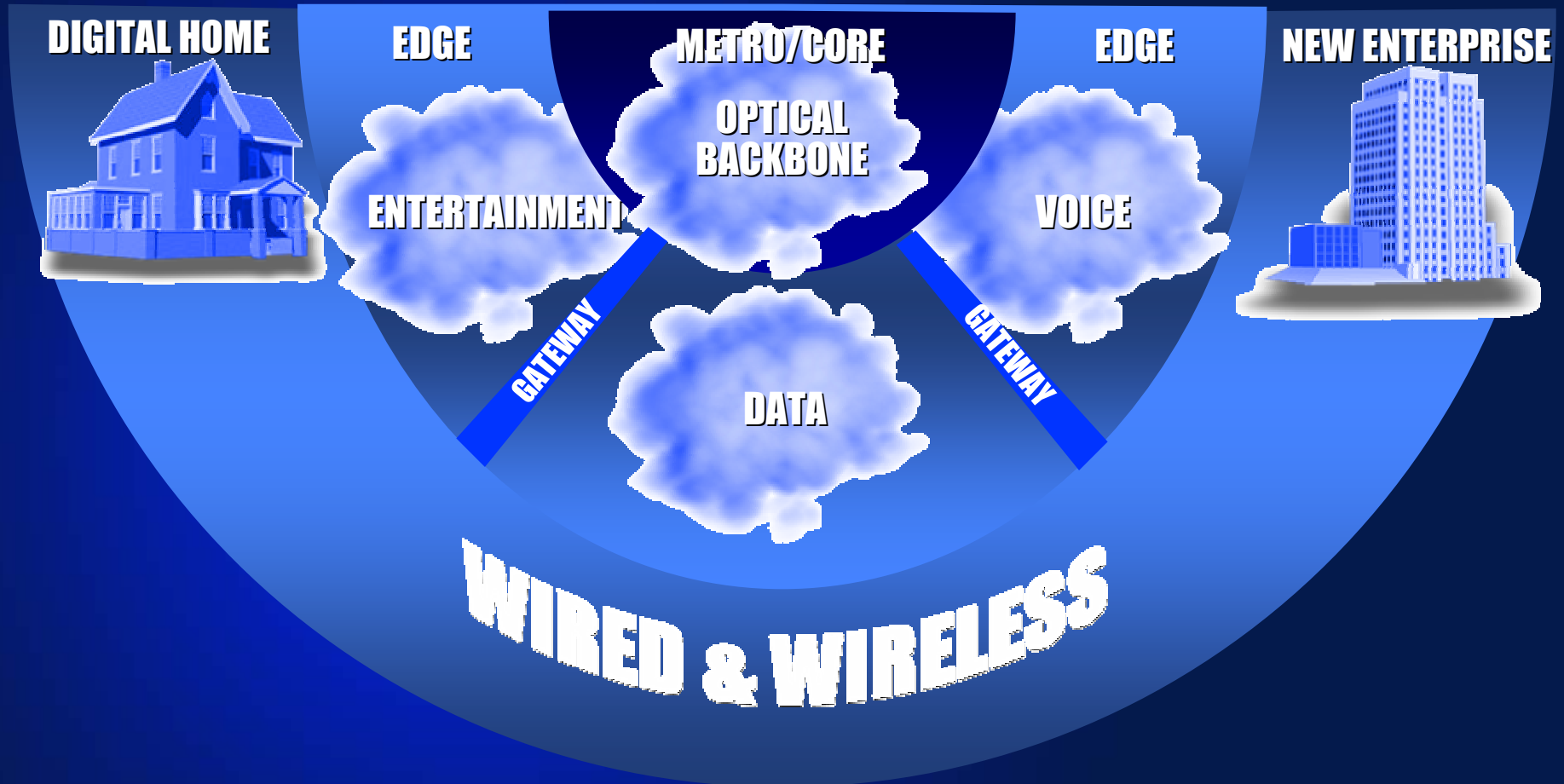
**30 Companies Defining
Middleware API interfaces**

**Objective: Drive industry
adoption of open
specifications for carrier-
grade communications
systems**

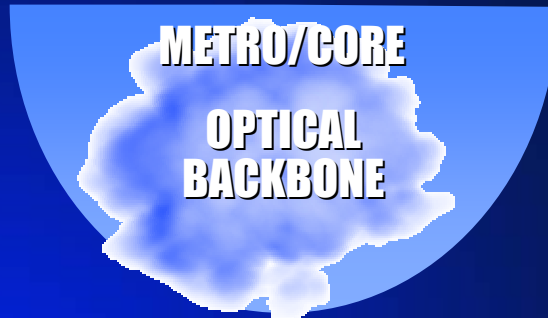
Applications and Middleware Ecosystem



Network Topology



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A Breakthrough in Simplicity

External Cavity Laser

**Full C-band Tunable, 50MHz
Single Part Replaces 40-80 Parts**

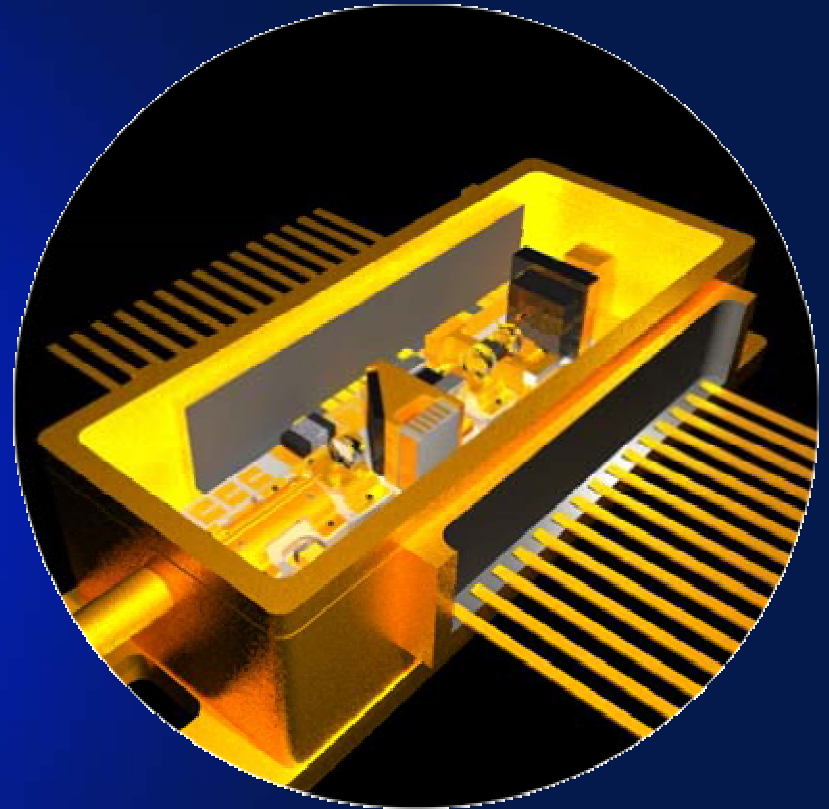
**High Output Power ($>20\text{mW}$)
No Amplifier Needed**

Low Power Dissipation ($<4\text{W}$)

No Moving Parts

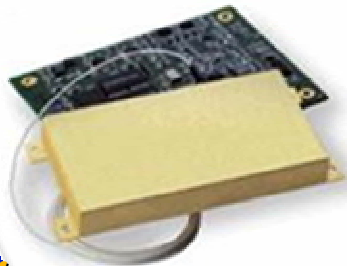
Integrated Wavelength Locker

Designed for Automated Assembly



A 10X Reduction in Size

50 x 105 mm



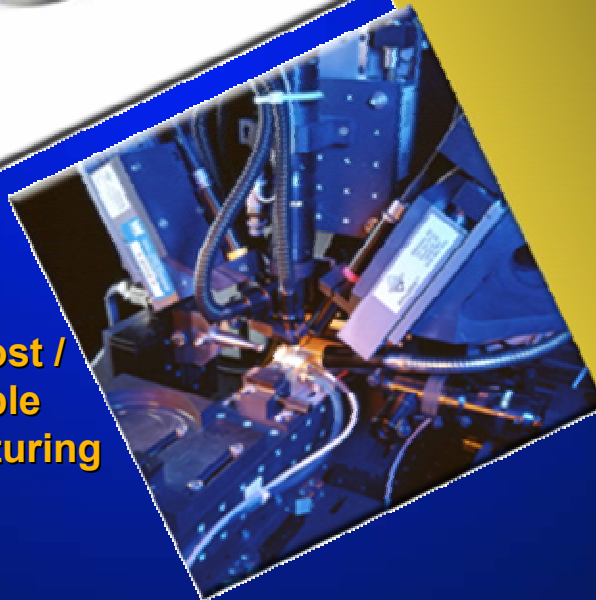
**Tunable Laser
Product**

15 x 40 mm



**Low Cost, Automated
Production of Small
Footprint Tunable Lasers**

**Low Cost /
Reliable
Manufacturing**



Strategy for Post-Recessionary Internet: *Scalability*

Modular Standards

**Mass Produced Products,
Integrate to Drive Costs Down**

Build Intelligence Throughout the Network

Enable Security and New Services